

**REMARKS**

Applicant thanks the Examiner for the careful review of this application. Claims 1-3 and 11 were amended to clarify aspects of the present invention. Claims 1-5, 10-16 remain pending in this application.

**REJECTIONS UNDER 35 U.S.C. § 112, SECOND PARAGRAPH**

Claims 1-5 were rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 has been amended so that detecting interlace motion artifacts is based on the analyzed relative levels of the presence of multiple vertical frequencies – thus linking last step with the preamble and previous steps.

Claim 3 was amended such that the “ $f_{\max}$ ” of step (d) is now  $f_{\max}/4$ . This corrects a clerical error. As a result, step (b) and step (d) are no longer equivalents.

Claims 2 and 4-5 depend directly or indirectly from independent claims 1-2 and therefore the rejections of those claims were addressed above in relation to claims 1 and 3. Withdrawal of the rejections of claims 1-5 is respectfully requested.

**REJECTIONS UNDER 35 U.S.C. § 102(e)**

Claim 1 was rejected under 35 U.S.C. § 102(e) as being anticipated by Swartz (U.S. Patent No. 6,014,182).

Swartz apparently discloses a television line doubler (interlaced to progressive scan converter) that incorporates the following aspects--an field motion detector which perhaps does not treat low frequency vertical transitions as motion; a frame motion detector perhaps having an ability to differentiate motion from subcarrier signal components; a sawtooth artifact detector; a

sawtooth artifact detector in combination with a film pattern detector, such that the artifact detector can perhaps take the film pattern detector out of film mode earlier than it would if it only were responsive to a break in the film pattern; tandem field motion detectors; an field based film detector; film pattern detectors and motion detectors used therewith which operate by performing end-of-field calculations; the combination of a field motion detector and a frame motion detector such that the frame motion detector provides a motion signal used as a verification by the field motion detector; an NTSC film detector requiring a number of NTSC film pattern sequences; and a PAL film detector employing a motion threshold detector.

An embodiment of the present invention as defined in claim 1 is directed to a method for detecting interlace motion artifacts wherein relative levels of multiple vertical frequencies are analyzed. The relative levels are based on a plurality of varying sample set sizes of multiple vertical frequencies. By analyzing multiple, varying sets of vertical frequencies the present invention can correctly identify interlace motion artifacts. This limitation is nowhere found or suggested by Swartz. In fact, and in marked contrast, Swartz's disclosure merely analyzes a single set of data. As a result, the present invention provides a more regular and consistent response across a variety of video program material.

Applicant respectfully requests the withdrawal of the rejection of claim 1.

#### **REJECTIONS UNDER 35 U.S.C. § 103(a)**

Claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Swartz (U.S. Patent No. 6,014,182).

The embodiment of the invention as defined in claim 10 is directed to a method for the prevention of false detection of interlace motion artifacts comprising wherein the plurality of  $f_{\max}$  frequency detection values are adjusted by subtracting a variable multiple from the plurality of  $f_{\max}$  frequency detection values based on a value of  $f_{\max}$ . Swartz does not disclose adjusting the frequency detection values by a variable multiple. Furthermore, it is not obvious to adjust the frequency detection values by subtracting a variable multiple because one skilled in the art would be inclined to implement an across the board adjustment of all frequency detection values and not necessarily take into account varying magnitudes of the difference between  $f_{\max}$  and frequency detection values. That is, once the difference reaches a first threshold, the frequency detection values will be adjusted once and not modified again in relation to a second threshold level. Advantageously, this method allows for a graded adjustment dependent on the current value of the frequency detection values.

Applicant respectfully requests the withdrawal of the rejection of claim 10.

#### **ALLOWABLE SUBJECT MATTER**

Applicant thanks the Examiner for noting the presence of allowable subject matter in claims 2-5 and 11-16. Dependent claims 2 and 11 were rewritten into independent form including all limitations of the intervening claims. Additionally, the 35 U.S.C. § 112, second paragraph rejections were previously addressed.

The amendment was made to expedite the prosecution of this application. Applicant respectfully traverses the rejections of the amended claims and reserves the right to re-introduce them and claims of an equivalent scope in a continuation application.

**CONCLUSION**

In view of the foregoing, Applicant believes that all pending claims are allowable and a Notice of Allowance is respectfully requested.

If the Examiner believes that a conference would be of value in expediting the prosecution of this application, he is cordially invited to telephone the undersigned agent at the number set out below.

Respectfully submitted,  
Perkins Coie LLP

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